Arthur becomes first Atlantic hurricane of the season

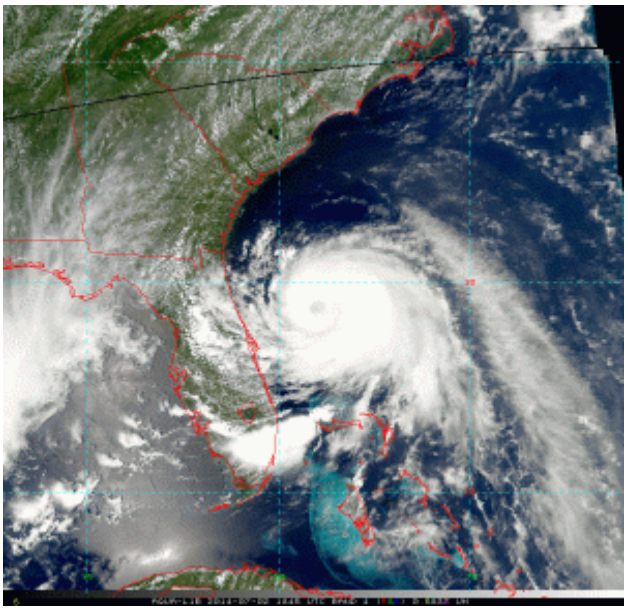
Description

Hurricane Arthur has become the first hurricane of this year's Atlantic season, which started at the beginning of June.

Arthur is currently located close to the coast of south-eastern USA and is expected to move north-east, parallel to the coast, in the next few days.

Although the centre of the hurricane may only graze the coast it is likely to produce a storm surge several feet above normal tide levels and cause strong surf and rip currents along stretches of the US east coast.

Hurricane warnings have been issued by the National Hurricane Center for the North Carolina coast.



Hurricane Arthur – Image from NASA's Aqua satellite courtesy of Colorado State University

Seasonal forecasts for the Atlantic mostly indicate that there is likely to be a slightly below normal level of activity this season.

The Met Office forecast is for the most likely number of tropical storms in the season to be 10 with six of these likely to become hurricanes.

Further details can be found in our North Atlantic tropical storm seasonal forecast web page.

Meanwhile in the west Pacific a tropical depression has formed just south of the island of Guam.

This is expected to strengthen into a powerful typhoon over the weekend and could potentially threaten parts of Japan or Korea by the middle of next week.

Official forecasts of Atlantic and east Pacific tropical storms are provided by the National Hurricane Center.

Official warnings of west Pacific tropical storms are produced by the Japanese Meteological Agency (JMA).

The Met Office routinely supplies predictions of cyclone tracks from its global forecast model to regional meteorological centres worldwide, which are used along with guidance from other models in the production of forecasts and guidance.

Met Office StormTracker provides a mapped picture of tropical cyclones around the globe with access to track history and six-day forecast tracks for current tropical cyclones from the Met Office global forecast model and latest observed cloud cover and sea surface temperature. We also provide updates on current tropical storms via @metofficestorms on Twitter.

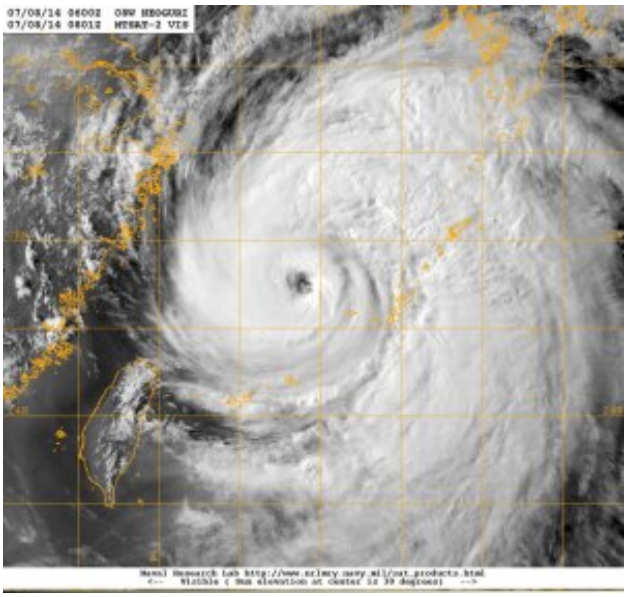
Date Created
July 2014

Typhoon Neoguri heading for Japan

Description

Typhoon Neoguri formed in the western Pacific several days ago and has its sights set on Japan in the next few days.

Peaks winds were estimated to be near 155 mph yesterday as the typhoon approached the Ryukyu Islands of Japan. Despite the eye of the typhoon passing south of Okinawa Island, wind gusts up to 99 mph were recorded and over 100 mm rain fell in just a few hours.



Courtesy of the Naval Research Laboratory

Neoguri is set to turn north-eastwards today and make landfall over the larger islands of Japan, starting with Kyushu, on Thursday. Whilst wind speeds would have reduced by then, the main threat is from heavy rain. In 2013 Typhoon Wipha dropped over 800 mm rain in 24 hours in parts of Japan causing devastating floods and landslides. It is possible that Neoguri could also produce several hundred millimetres of rain as it tracks the length of the main islands of Japan.

Official warnings of west Pacific tropical storms are produced by the Japanese Meteorological Agency (JMA). The Met Office routinely supplies predictions of cyclone tracks from its global forecast model to regional meteorological centres worldwide, which are used along with guidance from other models in the production of forecasts and guidance.

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Date Created
July 2014

With hot and humid weather could we see a ‘Spanish Plume’?

Description

Over the next few days increasingly warm and humid air moving up from the continent will see UK temperatures on the rise, with the warmest days of the year so far expected.

Temperatures in the south east of the country could climb to the low 30s Celsius by Friday, while other parts of England and Wales are likely to see temperatures in the mid to high 20s.

These very warm conditions will be accompanied by a close and humid feel in the air, which could make it feel quite uncomfortably warm in places – particularly during the nights.

While there is a good deal of dry and fine weather in the next few days, there is also the chance of seeing some heavy rain and thunderstorms as we go into the weekend.

Friday may see an area of thundery showers moving north east across parts of England and Wales.

Our meteorologists are also keeping a very close eye on the potential for more widespread thundery downpours on Saturday.

These could develop from what meteorologists call a ‘Spanish Plume’, which is a catchy name for a rather complex set of conditions.

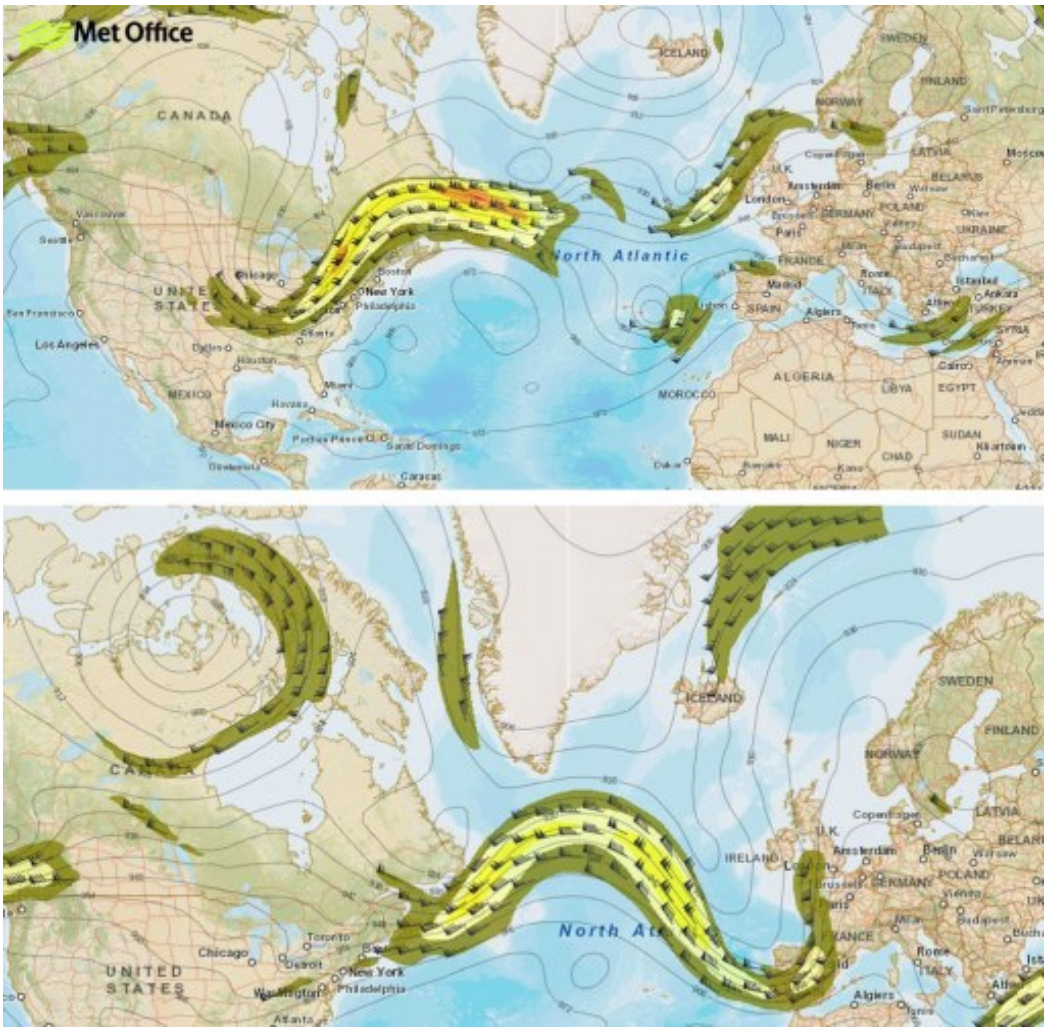
It involves very warm and humid air moving up from the Spanish plateau to the UK. If this meets cooler air from the Atlantic, the warm air can be forced rapidly upwards to produce thunderstorms.

There are a number of ingredients that all have to come in to place for this to happen, however, so the risk of disruption from any heavy, thundery downpours is low for Saturday at the moment rather than a certainty. A yellow alert has been issued for this risk and will be updated in the coming days.

You can keep up to date with how this situation develops by checking our forecasts and warnings over the next few days.

Interestingly, the warm weather we’re expecting can be traced back to the jet stream, a narrow band of fast moving winds high up in the atmosphere which forms where cooler air from the polar region meets warmer air from the tropics.

The jet stream has dipped south over north eastern parts of the US, allowing cooler air to flood in over the area and bringing much lower temperatures than usual for this time of year.



Top image shows forecast jet stream at 1am Wednesday, with an obvious kink over the NE of the US. The bottom forecast image, for 1am on Saturday, shows a kink now over Spain, with warm air from that region flowing towards the UK.

This kink in the jet stream causes a knock-on effect which pushes the cooler air south across the Atlantic, which in turn pushes the warm humid air over the continent (around Spain) towards the UK later this week.

This provides yet further proof of the way in which all weather is connected, but there are no hard and fast rules as to how events in one part of the world will affect us here in the UK.

Date Created
July 2014

Severe Tropical Storm Rammasun makes landfall in the Philippines

Description

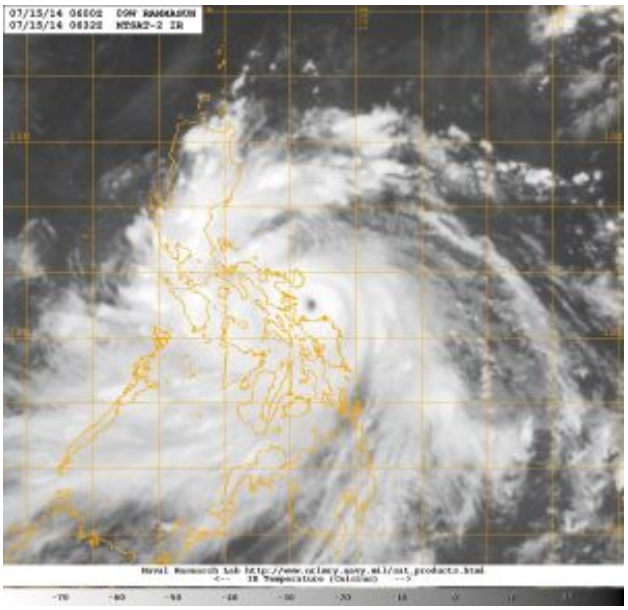
A severe tropical storm is bringing damaging winds and very high rainfall totals to the Philippines over the coming days as it heads over the island chain.

Severe Tropical Storm Rammasun (also known locally as Typhoon Glenda) has already made landfall over the largest island, Luzon, and is expected to track westward towards the capital, Manila.

It has winds of about 90 mph and gusts of up to 115 mph are forecast, but these could ease slightly as the storm moves inland.

Rammasun will also bring heavy rainfall, with up to 400mm of rain possible over the next two to three days – that's about a third of the UK's average rainfall for a whole year.

Legazpi in the south eastern part of Luzon had already seen 181mm of rain in just six hours early on Tuesday – this is more than twice as much as the UK would expect in the whole month of July.



Satellite image of Rammasun from earlier today. Courtesy of the Naval Research Laboratory.

The rainfall could cause flooding and landslides, with the largest impact possibly reserved to the populous Manila itself (Greater Metro Manila Area).

A storm surge of up to 1 to 1.5 metres is also expected, coinciding with waves of 3 to 5 metres and spring tides. This could also add to the risk of coastal flooding as the storm passes through.

This could be the strongest tropical storm to affect the Philippines since Milenyo (also known as Typhoon Xangsane) hit the area in 2006.

The Met Office has been working in partnership with PAGASA, the Filipino national forecaster, to provide high resolution forecast modeling for the region. This can help to provide more detailed guidance and warnings on the potential impacts of Rammasun, helping the region prepare so disruption can be minimised.

There are currently no other tropical storms in either the Pacific or the North Atlantic.

Official warnings of west Pacific tropical storms are produced by the Japanese Meteorological Agency (JMA).

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We also provide updates on current tropical storms via @metofficestorms on Twitter.

Date Created
July 2014

First half of July is… average?

Description

With the recent run of generally fine, dry and warm weather you'd be forgiven for thinking this July so far would be anything but average – but the statistics tell a different story.

The UK mean temperature for 1-16 of the month is 15C, just 0.1C above average. UK rainfall is perhaps surprisingly close to the average too, with 36.3mm of rain making up 46% of the whole-month average – we'd expect to see about 52% of the average by now.

Sunshine is the only measure which is notably above average, with 111.4 hours for the UK which is about 65% of the whole-month average (again, we'd expect about 52% at this point in the month).

These figures might not fit in with how many have perceived this month so far, which has seen a good deal of dry and fine weather.

One possible reason for this is that UK day-time maximum temperatures have been slightly higher than average (19.7C), while the night-time minimums have been slightly lower than average (10.4C). So we've experienced warmer days, and cooler nights, which adds up to a very average mean temperature (which includes day and night-time temperatures).

Another reason for the statistics bucking the expectation is because, with the exception of last year, the preceding few summers have been generally a little disappointing.

While last year's July was drier than average, five out of the six previous to that were wetter than average and three were cooler than average.

So perhaps we feel that the recent fine and dry weather is more unusual than it really is because of recent history.

Obviously it's far too early to judge how this July will finish overall, with half of the month still to add in to the statistics.

You can explore all kinds of climate information, including monthly summaries back to 2001, and climate data back to 1910, on our climate pages.

	Mean temperature		**Sunshine**		**Rainfall**	
1 – 16 July 2014 **	**Actual**	**Diff from 81-10 average**	**Actual**	**% of 81-10 average**	**Actual**	**% o ave**
	degC	**degC**	**hours**	**%**	**mm**	**%**
UK	15.0	0.1	111.4	65	36.3	46
England	16.3	0.2	120.2	62	29.0	46
Wales	14.7	-0.3	110.6	62	29.5	32

Scotland	13.1	0.0	101.1	72	50.0	50
N Ireland	14.5	0.1	88.1	63	36.7	45

** Please note these are half month statistics from 1-16 July. The final figures will change once statistics from the second half of the month are included.

Date Created
July 2014

Rain totals for 19th July 2014

Description

As forecast there were severe thunderstorms across the UK on the 19th July bringing heavy rain and gusty winds. See the tables below for the largest rain totals across the UK. Gloucestershire recorded the highest rainfall with 66mm between 6am and 6pm yesterday, the counties monthly average rainfall is 60.6mm.

The Heat-health watch put in place in parts of southern and eastern England in conjunction with Public Health England has now been downgraded. Temperatures in parts of the area covered topped 28C during 19 July, see table below.

Today, 20 July, temperatures are expected to reach low to mid 20's across central, south and south east of England, with London seeing around 27C. Northern England will reach mid to high teens and Scotland and Northern Ireland mid to low teens.

More thundery downpours are expected to develop today over some eastern and central parts of the UK. A yellow, be aware, weather warning for rain is in place for the areas likely to be affected. Not everywhere will see a storm but where they do occur, torrential downpours are possible with lightning, hail and strong gusts of wind. The areas most likely to be affected are across eastern and southeastern England.

Many places will have a good deal of fine and very warm weather this working week although there is the risk of some heavy showers in parts of the south and west later in the week.

UK MAX TEMPERATURE 19 JULY 2014

TIME	SITE NAME	AREA	MAX TEMP (Celsius)
16:22	London St Jamess Park	GREATER LONDON	28.5
15:13	Northolt	GREATER LONDON	28.4
15:22	Heathrow	GREATER LONDON	28.3
15:59	Santon Downham	SUFFOLK	28.3
13:29	Gravesend, Broadness	KENT	28.1
16:51	Cambridge NIAB	CAMBRIDGESHIRE	27.7
15:49	Marham	NORFOLK	27.7
13:55	Hampton W Wks	GREATER LONDON	27.6
16:52	Writtle	ESSEX	27.6
14:51	Frittenden	KENT	27.5

12hr UK RAINFALL 19 JULY

SITE NAME	AREA	PRECIP. (MM)
WESTONBIRT	GLOUCESTERSHIRE	66.0
PERSHORE COLLEGE	HEREFORD & WORCESTER	36.4
PERSHORE	HEREFORD & WORCESTER	30.8
NEWPORT (SALOP)	SHROPSHIRE	29.4
KEELE	STAFFORDSHIRE	28.2
ASTWOOD BANK	HEREFORD & WORCESTER	27.6
NOTTINGHAM, WATNALL	NOTTINGHAMSHIRE	26.0
LIBANUS	POWYS	25.8
NANTWICH, REASEHEATH HALL	CHESHIRE	22.6
MARKET BOSWORTH, BOSWORTH PARK	LEICESTERSHIRE	22.6

Date Created
July 2014

Lightning strikes and heavy rain over the weekend

Description

Parts of the UK saw some very heavy downpours over the weekend, as thunderstorms caused disruption in some regions.

Westonbirt in Gloucestershire saw the most rain with 79mm over the weekend, more than its July full-month average of 59.3mm. Within that total, 34.2mm fell in just an hour Saturday afternoon – with some localised flash flooding as a result.

A rain gauge at Norwich airport saw the highest hourly-rainfall total, with 45.8mm falling between 3pm and 4pm on Sunday – this is close to its full month July average of 50.4mm.

Numerous other spots saw some high rainfall totals, particularly in eastern areas. Below you can see some of the highest recorded hourly and overall rainfall totals from the weekend.

It's possible that some locations not included in the list saw heavy rain, but thundery downpours can be very localised – sometimes just a few hundred metres across.

This means that they can miss our rain gauge network, but you can explore rainfall totals from our Weather Observations Website (WOW) which has information supplied by observers all over the UK.

As we forecast on Friday, some locations avoided the storms altogether and saw prolonged fine weather over the weekend.

Nick Grahame, chief meteorologist at the Met Office, said: "The 'Spanish Plume' event we were forecasting led to some very intense thunderstorms over the weekend, with hourly and overall rainfall totals in line with our expectations.

"As we'd been highlighting in our forecasts, these storms can be very localised and that means some places avoided the storms altogether and saw a good deal of fine weather. It really highlights how events such as this can see some places with fairly severe impacts, while other places – sometimes quite nearby – can see no impacts at all."

48-Hour Rainfall Totals from 2100HRS on 18 July to 2100HRS on 20 July 2014:

STATION LOCATION	COUNTY	RAINFALL (mm)
WESTONBIRT	GLOUCESTERSHIRE	79
NORWICH AIRPORT	NORFOLK	62.2
SHOEBURYNESS, LANDWICK	ESSEX	48.6
PERSHORE COLLEGE	HEREFORD & WORCESTER	45.6
PERSHORE	HEREFORD & WORCESTER	39
ASTWOOD BANK	HEREFORD & WORCESTER	35.6

KEELE	STAFFORDSHIRE	32.4
ROCHDALE	GREATER MANCHESTER	32
NEWPORT (SALOP)	SHROPSHIRE	31
NOTTINGHAM, WATNALL	NOTTINGHAMSHIRE	29.2

Highest hourly rainfall totals from the weekend:

DATE/TIME	STATION LOCATION	COUNTY	RAINFA
20/07/2014 15:00	NORWICH AIRPORT	NORFOLK	45.8
19/07/2014 09:00	WESTONBIRT	GLOUCESTERSHIRE	34.2
20/07/2014 17:00	MONKS WOOD	CAMBRIDGESHIRE	22.8
19/07/2014 16:00	MARKET BOSWORTH	LEICESTERSHIRE	15.8
19/07/2014 06:00	LIBANUS	POWYS	15

This video shows the storms and lightning strikes as they developed over Spain and France and moved north across the UK.

In total the UK are saw 62,277 lightning strikes between 9am on Thursday 17 July and 9am on Monday 21 July 2014

Date Created
July 2014

Thunderstorms bring intense rainfall to parts of England

Description

This morning has seen some intense downpours across parts of south east England.

They developed across parts of East Anglia in the early hours of the morning, with further areas of heavy showers across Sussex, Surrey, Kent and the south of London following later.

The showers were very heavy in places with thunderstorms, hail, and torrential rain reported, giving high rainfall totals and localised flooding in some areas.

The high rainfall totals were caused by an area of low pressure and a plume of warm air that moved in from the near continent accompanied by light winds, meaning that the showers were slow moving.

Several spots have seen more than half of their average monthly rainfall for the whole of July in just one hour.

Below you can see some of the highest recorded hourly rainfall totals from Environment Agency rain gauges through the morning of Monday 28th July 2014:

Great Dunmow	Essex	43 mm (4am to 5am)
Isfield	Sussex	37 mm (8.30am to 9:30am)
Ardingly	Sussex	35 mm (8.30am to 9:30am)
Santon Downham	Suffolk	33mm (4am to 5am)
Weirwood	Sussex	28 mm (9am to 10am)
Northolt	London	20mm (7am to 8am)

The band of showery rain is now easing, but a yellow warning for rainfall remains in place for the south east of the UK as the risk of seeing some further isolated downpours remains.

In addition, the far south east of England could see further persistent and perhaps locally heavy rain later today and overnight, with parts of Kent and Sussex most at risk. Conditions across all areas should then improve through tomorrow.

Date Created
July 2014

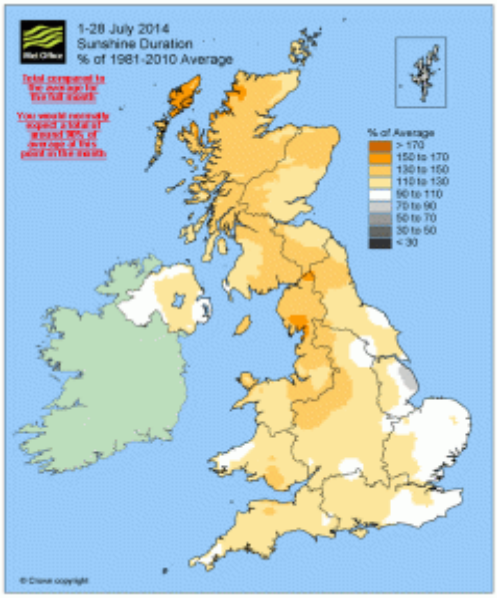
July 2014 in top ten warmest and sunniest

Description

This July is set to finish amongst the top ten warmest and sunniest in records dating back to 1910, according to early Met Office statistics.

Figures from the 1st to the 28th of the month show temperatures are slightly higher than normal, with a UK mean of 16.3C which is 1.2C above the 1981-2010 average.

If the month were to finish like that, it would be the joint 8th warmest in the record dating back to 1910 – but is well short of the record-breaking 17.8C set in 2006.



UK map showing hours of sunshine from 1-28 July 2014 compared to the full-month 1981-2010 average.

Sunshine hours for the UK are well above average, with 210 hours so far – which is 122% of the average we'd expect for the whole month. This means it is currently ranked as the joint 10th sunniest July in the record, and it's likely to climb higher once the final few days of the month are included.

However, this July is unlikely to break the record of 256 hours of sunshine set in 1955.

Rainfall has been below average for the UK – but not by a record-breaking amount. The UK has seen about 59mm so far, which is 76% of the full month average – you'd normally expect about 90% at this stage.

That means this month currently ranks as the 29th driest July on record – and it's likely to move closer to the mid-table due to any rain in the final few days of the month.

South west England and southern parts of Wales have seen the least rain compared to usual, with 42.6mm for the region making up just 53% of the full-month average.

	Mean temperature		Sunshine		Rainfall	
1-28 July	**Actual (celsius)**	**Diff from avg**	**Actual (hrs)**	**% of avg**	**Actual (mm)**	**% of avg**
UK	16.3	1.2	210	122	59	76
England	17.6	1.3	228.1	118	51.7	83
Wales	16.2	1	219.4	123	47.9	52
Scotland	14.4	1.2	187.3	133	75.1	75
N Ireland	15.7	1.1	152.5	109	53.4	66

Date Created
July 2014